

Fauna monitoring in eastern metropolitan parks

Robin Drury

Fauna Survey Group, Field Naturalists Club of Victoria, PO Box 13, Blackburn Victoria 3130

Abstract

The Fauna Survey Group of the Field Naturalists Club of Victoria currently is undertaking a wide ranging fauna survey in three parkland complexes east of Melbourne, in conjunction with Parks Victoria and interested volunteers. The main survey techniques are remote cameras, hair tubes, spotlights, harp traps, artificial habitat (tiles and tin) and sound recorders. Parks Victoria, Melbourne Water and the Knox Environment Society have provided financial support. Boral Industries have provided roof tiles. Fauna monitoring is a necessary part of environmental management and is often not well funded. This project provides an opportunity to gain an understanding of the best methods for monitoring important species; how members of the community can best be involved; and how the program might best be supported in the longer term. (*The Victorian Naturalist* 131 (1) 2014, 28-30)

Keywords: fauna monitoring, community engagement, urban parks

Introduction

The Field Naturalists Club of Victoria (FNCV) is a long-established volunteer group interested in understanding the natural world. The club has nine special interest groups, with seven covering the specific areas of botany, fauna survey, fungi, geology, marine research, microscopy and terrestrial invertebrates, and another two, the Day Group and the Juniors, which are more generic in activity.

The Fauna Survey Group holds a research permit under the *Wildlife Act 1975* and *National Parks Act 1975*. This permit allows the group to apply a range of survey techniques to determine the presence of vertebrate fauna. Since 1972, over 700 surveys, many in areas managed by Parks Victoria, have been conducted by the group.

After carrying out a remote camera survey in Baluk Willam, Belgrave South, in August 2012, the group was approached by Parks Victoria to participate in a project comprising a much larger survey involving a number of parks to the east and south-east of Melbourne.

The aims of the project are:

- To develop a vertebrate fauna list
- To involve the community
- To assess the success of survey techniques used
- To assess the success of the project, with a view to involving the community in ongoing monitoring projects.

The survey covers 45 focus areas (areas of land selected for research) and is within three parkland complexes: Berwick, Dandenong Valley and Sandbelt.

The study surveys for mammals, including bats, as well as birds, reptiles and frogs. The main survey techniques involve the use of remote cameras, harp trapping, hair tubing, spotlighting, visual and audio bird surveys, audio frog surveys and the establishment and monitoring of artificial habitat (roof tiles and tin) for reptiles, amphibians and small mammals. Supplementary techniques such as Ana-Bat™ and Songmeter™ will be considered. Fox scats will be collected and analysed to identify prey items, nest-boxes will be checked where available, and kangaroo counts will take place at Churchill National Park. Not all focus areas will be subject to all techniques.

Planning for the project commenced in September 2012, with grant applications to government and local donors. Funding has been received from Knox Environment Society, Parks Victoria and Melbourne Water. In addition, Boral Industries have supplied roof tiles for the reptile surveys.

The first survey work took place in March 2013.

Survey area

The three parklands contain a total of 17 parks and nature conservation reserves.

The Dandenong Valley Parkland, which follows the Dandenong Creek, includes the area from Jells Park in the south to Koomba in the north and also includes Wattle Park.

The Berwick Parkland includes Churchill and Lysterfield Parks and the Police Paddocks and

parks on the Cardinia Creek and at the Cardinia Reservoir. It also includes Baluk Willam, Selby and Critchley Parker Junior Reserves.

The Sandbelt Parkland includes Braeside and Karkarook Parks.

The total area exceeds 4500 ha.

The parks have had a varied history and ownership. Previous uses include water storage, drainage, farming and agriculture, quarrying, timber harvesting, power line easement and waste water treatment (Parks Victoria 2002, 2006, 2009; MMBW 2007).

Because of this, the vegetation has undergone significant change since pre-European times. Nevertheless, there are pockets of Ecological Vegetation Classes (EVCs) considered to be threatened both within the Gippsland Plains bioregion and statewide, including Heathy Woodland, Swampy Riparian Woodland, Swamp Scrub and Riparian Forest. Despite, or perhaps because of, the changes, the parks still play host to a variety of fauna. The management plans (Parks Victoria 2002, 2006, 2009; MMBW 2007) identify a range of fauna. Common species such as Eastern Grey Kangaroo *Macropus giganteus*, Black Wallaby *Wallabia bicolor*, Common Brushtail Possum *Trichosurus vulpecula*, Common Ringtail Possum *Pseudocheirus peregrinus* and Common Wombat *Vombatus ursinus* are regularly seen. The Powerful Owl *Ninox strenua*, the Australian Grayling *Prototroctes maraena* and Dwarf Galaxias *Galaxias pusilla*, all of national significance, can also be found here. The parks provide a home to birds, such as Lewin's Rail *Railus pectoralis*, listed under the *The Flora and Fauna Guarantee Act 1988* (FFG Act), and the Great Egret *Ardea alba*, listed under the JAMBA/CAMBA migratory bird agreements with Japan and China.

Land management has been, and continues to be, the responsibility of different parties. The principal players are Parks Victoria, Department of Environment and Primary Industry, Melbourne Water, local government and Committees of Management (Parks Victoria 2002, 2006, 2009; MMBW 2007), but the success of any plans relies heavily on the support of community groups, adjacent landholders or managers and other park users. Management plans have been developed as a framework to identify the issues and provide a set of common strate-

gies and actions for all the stakeholders. Being urban parks, there is a challenge in meeting the multiple demands from recreational users as well as providing for any conservation values.

The plans have identified the need to establish a baseline of the biodiversity in each park to better develop appropriate conservation strategies and to monitor systematically any apparent biotic change as these improvement strategies are implemented.

Community Involvement

Bell *et al.* (2008) pointed out the need for amateur naturalists to be involved in the collection data for biodiversity monitoring, because of the increasing need and the lack of professional resources to cope with the demand.

This proposal has provided the opportunity to bring together volunteer and corporate resources through the involvement of Parks Victoria, FNCV, Melbourne Water (Frogwatch), Birdlife Melbourne and the local friends, landcare and other environmental groups, such as the Knox Environment Society.

Community engagement commenced with information sessions at each of the three parklands, thus providing an overview of the project for interested parties. The project has been divided into the areas involving cameras and hair tubes, spotlighting and bat trapping, frog surveying, bird watching and reptile surveying. Email lists have been developed to contact participants about activities to the extent of their interest.

Opportunities have been provided to participate as follows:

- The deployment of cameras and hair tubes.
- Analysis of camera images, which have been uploaded onto Dropbox™ for ease of distribution and access.
- Participation in spotlighting and bat trapping.
- Participation in aural surveys for frogs, supported by a Melbourne Water training session. The results have also been placed on Dropbox™ for information and training purposes.
- Participation in training sessions for tile and tin deployment for reptile surveys.

Further participation opportunities exist with the deployment of tiles and tin and the subsequent monitoring of these sites, as well as any bird surveys that take place.

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Australian Natural History Medallion 2013: Marilyn Hewish

The 2013 Australian Natural History Medallion has been awarded to Marilyn Hewish, who was nominated by the Geelong Field Naturalists Club.

Marilyn Hewish joined the Geelong Field Naturalists Club (GFNC) in 1982, and for more than 30 years has demonstrated an ongoing commitment to expanding knowledge of Australian natural history. Her interests are wide ranging but her field activities have focused mostly on Australian birds. In the past five years, she has developed expertise in the study of Victorian moths.

Marilyn has organised and participated in a number of surveys and bird counts. From 1985 to 1990, she coordinated the National Wader Counts, and in 1988 she coordinated the Victorian Summer Waterfowl Count at 472 wetlands. She has taken part in many other surveys including Orange-bellied Parrot Counts (since 1982), Hooded Plover Counts (since 1984), RAOU Wetland Surveys (1987–1992) and Wader Counts (since 1985), as well as wildlife Atlas projects for the RAOU (now Birdlife Australia) and the Department of Sustainability and Environment.

Marilyn was a sub-editor for the Habitat and Movements sections for three volumes of the *Handbook of Australian, New Zealand and Antarctic Birds*. She has compiled numerous reports for the RAOU, the Department of Natural Resources and Environment and Parks Victoria. She has also been involved as an author and editor in the publication of a number of books, including *Birds of the Long Forest*, of which she was the senior author. Long Forest is an isolated

mallee remnant 50 km from Melbourne and has birds typical of drier areas in north-west Victoria. The book combined her own survey data from 430 field visits, records from over 60 individuals and organisations, and data from literature sources back to the 1880s. It presents a complete current and historical record of the birds in this unique area of Victoria.

For 18 years (1991–2008), Marilyn was editor of the annual *Geelong Bird Report* (GBR), a series that is subscribed to by organisations across Australia and overseas. In the early years, bird observations were submitted through the GFNC Bird Group and published as part of the *Geelong Naturalist*. From 1993, the GBR was published as an independent magazine. Papers on birds were also published, often authored by Marilyn or by inexperienced authors who were guided by her. The GBR is an outstanding publication.

Marilyn has an enviable record in publishing her field studies. Since 1983 she has had about 60 articles published in the *Geelong Naturalist*, the majority of which have been on birds and bird behaviour. In addition, between April 2007 and December 2009 Marilyn wrote a monthly column in the *Geelong Naturalist* which covered topics as diverse as clouds, Killer Whales, solar eclipses, cicadas, moss, trees of the Geelong region, the moon, orchids and what naturalists should have in their backpacks.

Marilyn has given numerous talks and led bird-watching excursions for a wide range of ornithological, environmental and community groups. She has presented papers to many key groups in Victoria, interstate and overseas. In Victoria, she has made presentations in Geelong on many